



COUNTY OF SAN DIEGO  
**Great Government Through the General Management System – Quality, Timeliness, Value**  
DEPARTMENT OF HUMAN RESOURCES

CLASS SPECIFICATION

CLASSIFIED

JUNIOR ENGINEER  
ASSISTANT ENGINEER

Class No. 003695  
Class No. 003615

■ CLASSIFICATION PURPOSE

To perform and coordinate professional civil or structural engineering work, and to perform related work as required.

■ DISTINGUISHING CHARACTERISTICS

Junior Engineer:

This is the entry-level class in the Engineer series. Under general supervision, a Junior Engineer serves as either: 1) an assistant resident engineer on construction and building projects, or 2) a participant in analyzing engineering problems including the preparation and design of projects.

Assistant Engineer:

This is the first working-level class in the Engineer series. Under general supervision, an Assistant Engineer serves as: 1) a resident engineer on projects of moderate complexity, or 2) an assistant resident engineer on a major project with significant costs, or 3) a participant in an engineering unit assisting in the preparation and development of projects, or 4) a resident engineer at the building counter responsible for determining the structural adequacy of existing and proposed buildings, primarily for residential plan checking, complex designs, and some commercial plans. Positions may supervise a unit of subordinate paraprofessional or technical staff engaged in engineering project support work.

■ FUNCTIONS

**The examples of functions listed in the class specification(s) are representative but not necessarily exhaustive or descriptive of any one position in the class(es). Management is not precluded from assigning other related functions not listed herein if such functions are a logical assignment for the position.**

Essential Functions:

Junior Engineer:

1. Acts as assistant resident project engineer responsible for directing and overseeing the activities of field crews engaged in establishing grades, property lines, and elevations for construction or highway/bridge design projects.
2. Assists in computing work progress, and preparing estimates for payments to contractors.
3. Maintains and prepares technical correspondence and engineering reports relating to building and construction projects.
4. Assists in developing and preparing engineering and mathematical analysis of design problems in hydraulics and hydrology, drainage control, water distribution, and rehabilitation studies.
5. Assists in coordinating structural designs with mechanical and electrical requirements.
6. Reviews land development plans and documents to ensure appropriate engineering design.
7. Provides responsive, high quality service to county employees, representatives of outside agencies and members of the public by providing accurate, compete and up-to-date information, in a courteous, efficient and timely manner.

Assistant Engineer:

All the duties listed above and

1. Serves as a resident engineer on projects of moderate complexity, or as an assistant residential engineer on a major project of technical complexity.
2. Reviews design plans for private developers.

3. Prepares design solutions for airport, road structure, and other general civil engineering projects.
4. Serves as a supervisor in directing and advising construction inspectors or a design unit.
5. Determines the structural adequacy of existing and proposed buildings, when reviewing plans at the building counter.
6. Examines and checks building plans and specifications for compliance with California Building Code and county regulations in the areas of safety, structural, energy, and accessibility requirements.
7. Identifies plan check deficiencies in design or construction.
8. Provides guidance to the public and other staff on code compliance matters.
9. Assist building inspectors in determining that construction is in accordance with approved plans.
10. Assists building inspectors in resolving field problems.

#### ■ KNOWLEDGE, SKILLS AND ABILITIES

##### Knowledge of:

- Theory, principles, and practices of structural and civil engineering.
- Mathematical and mechanical principles of structural and hydraulic design.
- Construction materials and equipment used in the building of highways, drainage and control facilities, and structures.
- Sources of structural and civil engineering design information.
- County customer service objectives and strategies.

##### Assistant Engineer (in addition to the above):

- Methods and techniques in preparing contract proposals.
- Principles of earthwork, including highway design and construction.
- Engineering project inspection methods.
- Traffic control.
- County ordinances relating to grading, drainage, street improvements, subdivisions, and land use regulations.
- California building codes, and state laws relating to energy, sound insulation, mobile homes, and disabled access regulations.
- Principles and methods of training and supervision.

##### Skills and Abilities to:

- Prepare and check engineering designs, details, estimates, plans, and specifications.
- Apply modern engineering techniques to solve a variety of engineering problems.
- Prepare technical correspondence and engineering reports relating to assigned building and construction projects.
- Communicate effectively in oral and written form.
- Establish effective working relationships with management, employees, employee representatives and the public representing diverse cultures and backgrounds.
- Treat County employees, representatives of outside agencies and members of the public with courtesy and respect.
- Exercise appropriate judgment in answering questions and releasing information; analyze and project consequences of decisions and/or recommendations.

##### Assistant Engineer (in addition to the above):

- Serve as a resident engineer on projects of moderate complexity or assistant engineer on a major project with significant costs and factors.
- Direct and advise building inspectors or design units.
- Apply principles of design and construction practices.
- Prepare plan correction reports.

#### ■ EDUCATION/EXPERIENCE

Education, training, and/or experience that demonstrate possession of the knowledge, skills and abilities listed above. Examples of qualifying education/experience are:

##### Junior Engineer:

1. A bachelor's degree in civil or structural engineering from a college or university with coursework approved by the Accreditation Board for Engineering and Technology (ABET), OR

2. An Engineer-in-Training (E.I.T.) certificate from any state, and one (1) year of experience in civil or structural engineering.

Assistant Engineer:

1. A bachelor's degree in civil or structural engineering from a college or university with coursework approved by the Accreditation Board for Engineering and Technology (ABET), and one (1) year of post-graduation professional level civil engineering, structural design engineering, building construction, or building regulatory experience, OR
2. An Engineer-In-Training (E.I.T.) certificate from any state, and two (2) years of the experience in civil or structural engineering described above, OR
3. One (1) year of experience as a Junior Engineer with the County of San Diego.

■ ESSENTIAL PHYSICAL CHARACTERISTICS

**The physical characteristics described here are representative of those that must be met by an employee to successfully perform the essential functions of the classification(s). Reasonable accommodation may be made to enable an individual with qualified disabilities to perform the essential functions of a job, on a case-by-case basis.**

Continuous upward and downward flexion of the neck. Frequent: standing, sitting, repetitive use of hands to operate computers, printers and copiers, and lifting and carrying files weighing up to 30 pounds. Occasional: walking, bending and twisting of neck, bending and twisting of waist, squatting, simple grasping, and reaching above and below shoulder level.

■ SPECIAL NOTES, LICENSES, OR REQUIREMENTS

License

A valid California class C driver's license, which must be maintained throughout employment in this class, is required at time of appointment. Employees in this class may be required to use their own vehicle.

Certification/Registration

Junior Engineer:

No certification or registration required at this level.

Assistant Engineer:

Candidate must obtain a Building Plans Examiner Certificate issued by the International Code Council (ICC) within two years of date of hire.

Working Conditions

Office environment; exposure to computer screens.

Background Investigation

Must have a reputation for honesty and trustworthiness. Misdemeanor and/or felony convictions may be disqualifying depending on type, number, severity, and recency. Prior to appointment, candidates will be subject to a background investigation.

Probationary Period

Incumbents appointed to permanent positions in these classes shall serve a probationary period of 12 months (Civil Service Rule 4.2.5).

**New: January 29, 1975 – Assistant Civil Engineer**  
**New: January 18, 1961 – Junior Civil Engineer**  
**Retitled: October 18, 1991 – Assistant Engineer and Junior Engineer**  
**Revised: Spring 2003**  
**Revised: June 15, 2004**  
**Revised: June 23, 2006**

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Union Code: PR  
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Variable Entry: Y  
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